

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/809,060A  
Source: J. Fluor.  
Date Processed by STIC: 07/27/2005

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 07/27/2005

PATENT APPLICATION: US/09/809,060A

TIME: 11:51:14

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt

Output Set: N:\CRF4\07272005\I809060A.raw

4 <110> APPLICANT: Wild, Carl T.  
 5 Allaway, Graham P.  
 8 <120> TITLE OF INVENTION: A Method for Generating Immunogens that Elicit  
 9 Neutralizing Antibodies against Fusion-Active  
 10 Regions of HIV Envelope Proteins  
 13 <130> FILE REFERENCE: 1900.0260001  
 C--> 16 <140> CURRENT APPLICATION NUMBER: US/09/809,060A  
 18 <141> CURRENT FILING DATE: 2001-03-16  
 21 <150> PRIOR APPLICATION NUMBER: US 60/189,981  
 23 <151> PRIOR FILING DATE: 2000-03-17  
 26 <160> NUMBER OF SEQ ID NOS: 87  
 29 <170> SOFTWARE: PatentIn version 3.0  
 32 <210> SEQ ID NO: 1  
 34 <211> LENGTH: 36  
 36 <212> TYPE: PRT  
 38 <213> ORGANISM: Human immunodeficiency virus type 1  
 42 <400> SEQUENCE: 1  
 44 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln  
 45 1 5 10 15  
 47 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu  
 48 20 25 30  
 50 Trp Asn Trp Phe  
 51 35  
 53 <210> SEQ ID NO: 2  
 55 <211> LENGTH: 36  
 57 <212> TYPE: PRT  
 59 <213> ORGANISM: Human immunodeficiency virus type 1  
 62 <400> SEQUENCE: 2  
 64 Tyr Thr Asn Thr Ile Tyr Thr Leu Leu Glu Glu Ser Gln Asn Gln Gln  
 65 1 5 10 15  
 67 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu  
 68 20 25 30  
 70 Trp Asn Trp Phe  
 71 35  
 73 <210> SEQ ID NO: 3  
 75 <211> LENGTH: 36  
 77 <212> TYPE: PRT  
 79 <213> ORGANISM: Human immunodeficiency virus type 1  
 83 <400> SEQUENCE: 3  
 85 Tyr Thr Gly Ile Ile Tyr Asn Leu Leu Glu Glu Ser Gln Asn Gln Gln  
 86 1 5 10 15  
 88 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Asn Leu  
 89 20 25 30

(pg-6)

## RAW SEQUENCE LISTING

DATE: 07/27/2005

PATENT APPLICATION: US/09/809,060A

TIME: 11:51:14

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt

Output Set: N:\CRF4\07272005\I809060A.raw

```

91 Trp Asn Trp Phe
92      35
94 <210> SEQ ID NO: 4
96 <211> LENGTH: 36
98 <212> TYPE: PRT
100 <213> ORGANISM: Human immunodeficiency virus type 1
104 <400> SEQUENCE: 4
106 Tyr Thr Ser Leu Ile Tyr Ser Leu Leu Glu Lys Ser Gln Ile Gln Gln
107 1      5      10      15
109 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
110      20      25      30
112 Trp Asn Trp Phe
113      35
115 <210> SEQ ID NO: 5
117 <211> LENGTH: 36
119 <212> TYPE: PRT
121 <213> ORGANISM: Human immunodeficiency virus type 2
124 <400> SEQUENCE: 5
126 Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
127 1      5      10      15
129 Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe
130      20      25      30
132 Thr Asn Trp Leu
133      35
135 <210> SEQ ID NO: 6
137 <211> LENGTH: 38
139 <212> TYPE: PRT
141 <213> ORGANISM: Human immunodeficiency virus type 1
145 <400> SEQUENCE: 6
147 Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
148 1      5      10      15
150 Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
151      20      25      30
153 Arg Tyr Leu Lys Asp Gln
154      35
156 <210> SEQ ID NO: 7
158 <211> LENGTH: 38
160 <212> TYPE: PRT
162 <213> ORGANISM: Human immunodeficiency virus type 1
166 <400> SEQUENCE: 7
168 Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
169 1      5      10      15
171 Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
172      20      25      30
174 Arg Tyr Leu Lys Asp Gln
175      35
177 <210> SEQ ID NO: 8
179 <211> LENGTH: 48
181 <212> TYPE: PRT

```

## RAW SEQUENCE LISTING

DATE: 07/27/2005

PATENT APPLICATION: US/09/809,060A

TIME: 11:51:14

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt

Output Set: N:\CRF4\07272005\I809060A.raw

```

183 <213> ORGANISM: Human immunodeficiency virus type 1
186 <400> SEQUENCE: 8
188 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
189 1          5          10          15
191 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
192          20          25          30
194 Trp Asn Trp Phe Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Gly Pro Gly
195          35          40          45
197 <210> SEQ ID NO: 9
199 <211> LENGTH: 18
201 <212> TYPE: PRT
203 <213> ORGANISM: Human immunodeficiency virus type 1
207 <400> SEQUENCE: 9
209 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Ser Gln Asn Gln Gln
210 1          5          10          15
212 Glu Lys
215 <210> SEQ ID NO: 10
217 <211> LENGTH: 18
219 <212> TYPE: PRT
221 <213> ORGANISM: Human immunodeficiency virus type 1
225 <400> SEQUENCE: 10
227 Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu
228 1          5          10          15
230 Leu Asp
233 <210> SEQ ID NO: 11
235 <211> LENGTH: 13
237 <212> TYPE: PRT
239 <213> ORGANISM: Human immunodeficiency virus type 1
243 <400> SEQUENCE: 11
245 Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
246 1          5          10
248 <210> SEQ ID NO: 12
250 <211> LENGTH: 7
252 <212> TYPE: PRT
254 <213> ORGANISM: Human immunodeficiency virus type 1
258 <400> SEQUENCE: 12
260 Glu Leu Asp Lys Trp Ala Ser
261 1          5
263 <210> SEQ ID NO: 13
265 <211> LENGTH: 56
267 <212> TYPE: PRT
269 <213> ORGANISM: Human immunodeficiency virus type 1
273 <400> SEQUENCE: 13
275 Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr
276 1          5          10          15
278 Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu
279          20          25          30
281 Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp
282          35          40          45

```

## RAW SEQUENCE LISTING

DATE: 07/27/2005

PATENT APPLICATION: US/09/809,060A

TIME: 11:51:14

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt

Output Set: N:\CRF4\07272005\I809060A.raw

```

284 Asn Trp Phe Asn Ile Thr Asn Trp
285      50                      55
287 <210> SEQ ID NO: 14
289 <211> LENGTH: 55
291 <212> TYPE: PRT
293 <213> ORGANISM: Human immunodeficiency virus type 1
297 <400> SEQUENCE: 14
299 Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu
300 1          5          10          15
302 Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly
303      20          25          30
305 Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys
306      35          40          45
308 Asp Gln Gln Leu Leu Gly Ile
309      50          55
310 <210> SEQ ID NO: 15
312 <211> LENGTH: 46
314 <212> TYPE: PRT
316 <213> ORGANISM: Human immunodeficiency virus type 1
320 <400> SEQUENCE: 15
322 Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His
323 1          5          10          15
325 Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
326      20          25          30
328 Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
329      35          40          45
331 <210> SEQ ID NO: 16
333 <211> LENGTH: 34
335 <212> TYPE: PRT
337 <213> ORGANISM: Human immunodeficiency virus type 1
341 <400> SEQUENCE: 16
343 Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His
344 1          5          10          15
346 Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
347      20          25          30
349 Leu Leu
352 <210> SEQ ID NO: 17
354 <211> LENGTH: 46
356 <212> TYPE: PRT
358 <213> ORGANISM: Human immunodeficiency virus type 1
362 <400> SEQUENCE: 17
364 Trp Met Glu Trp Glu Arg Glu Ile Glu Asn Tyr Thr Gly Leu Ile Tyr
365 1          5          10          15
367 Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Asp
368      20          25          30
370 Leu Leu Ala Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
371      35          40          45
372 <210> SEQ ID NO: 18
374 <211> LENGTH: 34

```

## RAW SEQUENCE LISTING

DATE: 07/27/2005

PATENT APPLICATION: US/09/809,060A

TIME: 11:51:14

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt

Output Set: N:\CRF4\07272005\I809060A.raw

```

376 <212> TYPE: PRT
378 <213> ORGANISM: Human immunodeficiency virus type 1
382 <400> SEQUENCE: 18
384 Trp Met Glu Trp Glu Arg Glu Ile Glu Asn Tyr Thr Gly Leu Ile Tyr
385 1             5             10            15
387 Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Asp
388             20             25            30
390 Leu Leu
393 <210> SEQ ID NO: 19
395 <211> LENGTH: 36
397 <212> TYPE: PRT
399 <213> ORGANISM: Human immunodeficiency virus type 1
403 <400> SEQUENCE: 19
405 Tyr Thr Gly Leu Ile Tyr Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln
406 1             5             10            15
408 Glu Lys Asn Glu Gln Asp Leu Leu Ala Leu Asp Lys Trp Ala Ser Leu
409             20             25            30
411 Trp Asn Trp Phe
412             35
414 <210> SEQ ID NO: 20
416 <211> LENGTH: 46
418 <212> TYPE: PRT
420 <213> ORGANISM: Human immunodeficiency virus type 1
424 <400> SEQUENCE: 20
426 Trp Met Glu Trp Glu Arg Glu Ile Asp Asn Tyr Thr Ser Glu Ile Tyr
427 1             5             10            15
429 Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
430             20             25            30
432 Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
433             35             40            45
434 <210> SEQ ID NO: 21
436 <211> LENGTH: 34
438 <212> TYPE: PRT
440 <213> ORGANISM: Human immunodeficiency virus type 1
444 <400> SEQUENCE: 21
446 Trp Met Glu Trp Glu Arg Glu Ile Asp Asn Tyr Thr Ser Glu Ile Tyr
447 1             5             10            15
449 Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
450             20             25            30
452 Leu Leu
455 <210> SEQ ID NO: 22
457 <211> LENGTH: 36
459 <212> TYPE: PRT
461 <213> ORGANISM: Human immunodeficiency virus type 1
465 <400> SEQUENCE: 22
467 Tyr Thr Ser Glu Ile Tyr Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln
468 1             5             10            15
470 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
471             20             25            30

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/809,060A

DATE: 07/27/2005  
TIME: 11:51:15

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt  
Output Set: N:\CRF4\07272005\I809060A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:82; Xaa Pos. 25

Seq#:83; Xaa Pos. 25

Seq#:84; Xaa Pos. 18

**VERIFICATION SUMMARY**

DATE: 07/27/2005

PATENT APPLICATION: US/09/809,060A

TIME: 11:51:15

Input Set : A:\Sequence Listing ASCII, Docket No. 1900.0260001.ST25.txt

Output Set: N:\CRF4\07272005\I809060A.raw

L:16 M:270 C: Current Application Number differs, Replaced Current Application Number

L:1720 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:16

L:1751 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:16

L:1782 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:16